

Bài 1:

$$\begin{matrix} 4 & 7 & 4 & 7 & 3 \\ 2 & 5 & 5 & 3 & 6 \\ 2 & 9 & 3 & 1 & 3 \\ 5 & 6 & 2 & 4 & 3 \\ 4 & 4 & 5 & 3 & 3 \end{matrix}$$

$$H_1 = \begin{bmatrix} -1 & 0 & 1 \\ -2 & 0 & 2 \\ -1 & 0 & 1 \end{bmatrix}$$

$$H_2 = \begin{bmatrix} -1 & -2 & -1 \\ 0 & 0 & 0 \\ 1 & 2 & 1 \end{bmatrix}$$

Nhận chia matrrix vs H1.

$$J(0,0) = 4 * 0 + 7 * 2 + 2 * 0 + 5 * 1 - 19$$

$$J(0,1) = 4 * (-2) + 7 * 0 + 4 * 2 + 2 * (-1) + 5 * 0 + 5 * 1 = 9$$

$$J(0,2) = 7 * (-2) + 4 * 0 + 7 * 2 + 5 * (-1) + 3 * 0 + 3 * 1 = -2$$

$$J(0,3) = 4 * (-2) + 7 * 0 + 3 * 2 + 5 * (-1) + 3 * 0 + 6 * 1 = 7$$

$$J(0,4) = 7 * (-2) + 3 * 0 + 3 * (-1) + 6 * 0 = 17$$

$$J(1,0) = 4 * (-1) + 7 * 6 + 2 * (-2) + 5 * 0 + 7 * (-1) + 4 * 0 = 25$$

$$J(1,1) = 4 * (-1) + 7 * 0 + 4 * 1 + 2 * (-2) + 5 * 0 + 5 * 2 + 7 * (-1) + 4 * 3 * 1 = 2$$

$$J(1,2) = 7 * (-1) + 4 * 0 + 7 * 1 + 5 * (-2) + 5 * 0 + 3 * 2 + 4 * (-1) + 3 * 0 + 1 * 1 = 7$$

$$J(1,3) = 4 * (-1) + 7 * 0 + 3 * 1 + 5 * (-2) + 3 * 0 + 6 * 2 + 3 * (-1) + 1 * 0 + 3 * 1 = 1$$

$$J(1,4) = 7 * 0 + 3 * 1 + 3 * 0 + 6 * 2 + 1 * 0 + 3 * 1 = 18$$

$$J(2,0) = 2 * (-1) + 5 * 0 + 7 * 0 + 4 * 2 + 5 * 0 + 6 * 1 = 19$$

$$J(2,1) = 2 * (-1) + 5 * 0 + 5 * 1 + 7 * (-2) + 4 * 0 + 3 * 2 + 5 * (-1) + 6 * 0 + 2 * 1 = 8$$

$$J(2,2) = 5 * (-1) + 5 * 0 + 3 * 1 + 4 * (-2) + 3 * 0 + 7 * 2 + 6 * (-1) + 2 * 0 + 4 * (-1) = 48$$

$$J(2,3) = 5 * (-1) + 3 * 0 + 6 * 1 + 3 * (-2) + 7 * 0 + 3 * 2 + 2 * (-1) + 4 * 0 + 3 * 1 = 2$$

$$J(2,4) = 3 * (-1) + 6 * 0 + 7 * (-2) + 3 * 0 + 4 * (-1) + 3 * 0 = 19$$

$$J(3,0) = 7 * 0 + 4 * 1 + 5 * 0 + 6 * 2 + 4 * 0 + 4 * 1 = 20$$

$$J(3,1) = 7 * (-1) + 4 * 0 + 3 * 1 + 5 * (-2) + 6 * 0 + 2 * 2 + 4 * (-1) + 4 * 0 + 5 * (-1) = 9$$

$$J(3,2) = 4 * (-1) + 3 * 0 + 1 * 1 + 6 * (-2) + 2 * 0 + 4 * 2 + 4 * (-1) + 5 * 0 + 3 * 1 = 8$$

$$J(3,3) = 3 * (-1) + 1 * 0 + 3 * 1 + 2 * (-2) + 4 * 0 + 3 * 1 + 5 * (-1) + 3 * 0 + 3 * 1 = 0$$



$$I(3,4) = 7 * (-1)$$

$$I(4,0) = 5 * 1$$

$$I(4,1) = 5 * (-1)$$

$$I(4,2) = 6 * 1$$

$$I(4,3) = 2 * 1$$

$$I(4,4) = 4 * 1$$

$$Ma$$

$$19$$

$$15$$

$$19$$

$$70$$

$$11$$

$$Nhóm$$

$$I(0,0) =$$

$$I(0,1) =$$

$$I(0,2) =$$

$$I(0,3) =$$

$$I(1,1) =$$

$$I(1,2) =$$

$$I(1,3) =$$

$$I(0,4) =$$

$$I(1,0) =$$

$$I(1,1) =$$

$$I(1,2) =$$

$$I(1,3) =$$

$$I(1,4) =$$

$$I(2,0) =$$

$$I(2,1) =$$

$$I(2,2) =$$

$$I(2,3) =$$

$$I(2,4) =$$

$$I(3,0) =$$

$$I(3,1) =$$

$$I(3,2) =$$

$$I(3,3) =$$

$$I(3,4) =$$

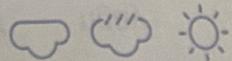
$$\begin{aligned} I(3,4) &= 7 \times (-1) + 3 \times 0 + 4 \times (-1) \times 3 \times 0 + 3 \times (-1) \times 0 = 12 \\ I(4,0) &= 5 \times (-1) + 6 \times 0 + 4 \times (-1) + 4 \times 0 = 14 \\ I(4,1) &= 5 \times (-1) + 6 \times 0 + 2 \times 2 + 4 \times (-1) + 4 \times 0 = 14 \\ I(4,2) &= 6 \times (-1) \times 2 \times 0 + 4 \times 2 + 4 \times (-1) + 5 \times 0 + 3 \times 1 = 5 \\ I(4,3) &= 2 \times (-1) + 4 \times 0 + 3 \times 2 + 5 \times (-1) + 3 \times 0 + 3 \times 1 = -5 \\ I(4,4) &= 4 \times 0 + 3 \times 2 + 3 \times 0 + 3 \times 1 = 9 \end{aligned}$$

Ma trận thứ tự

19	5	2	1	17
15	2	7	1	18
19	8	18	2	9
20	9	8	0	10
14	11	5	0	9

Nhận thấy ma trận  $H_2$ 

$$\begin{aligned} I(0,0) &= 4 \times (-1) + 7 \times \cancel{0} + \cancel{3} \times \cancel{(-1)} + 5 \times 0 = -3 \cdot 18 \\ I(0,1) &= 4 \times (-1) + 7 \times \cancel{0} + 4 \times (-1) + 2 \times \cancel{0} + 5 \times 0 + 5 \times 0 = -18 \cdot 22 \\ I(0,2) &= 7 \times (-1) + 4 \times \cancel{0} + 7 \times (-1) + 5 \times \cancel{0} + 5 \times 0 + 3 \times 0 = -9 \cdot 22 \\ I(0,3) &= 4 \times (-1) + 7 \times \cancel{0} + 3 \times (-1) + 5 \times \cancel{0} + 3 \times 0 + 6 \times 0 = -21 \\ I(0,4) &= 7 \times 0 + 3 \times 0 + 3 \times 1 + 6 \times 2 = 12 \cdot 15 \\ I(1,0) &= 4 \times (-1) + 7 \times (-2) + 2 \times 0 + 5 \times 0 + 2 \times 1 + 4 \times (-3) \times 1 = 3 \\ I(1,1) &= 2 \times (-1) + 7 \times (-2) + 4 \times (-1) + 2 \times 0 + 5 \times 0 + 5 \times 0 + 7 \times 1 + 4 \times (-3) \times 1 = 4 \\ I(1,2) &= 7 \times (-1) + 2 \times (-2) + 7 \times (-1) + 5 \times 0 + 5 \times 0 + 3 \times 0 + 4 \times 1 + 3 \times 2 \times 1 = 11 \\ I(1,3) &= 4 \times (-1) + 7 \times (-2) + 3 \times (-1) + 5 \times 0 + 3 \times 0 + 6 \times 0 + 3 \times 1 + 1 \times 2 + 3 \times 1 = 13 \\ I(1,4) &= 7 \times (-1) + 3 \times (-1) + 3 \times 0 + 6 \times 0 + 1 \times 2 + 3 \times 1 = 9 \cdot 2 \\ I(2,0) &= 2 \times (-1) + 5 \times (-2) + 7 \times 0 + 4 \times 0 + 5 \times 1 + 6 \times 2 = 5 \\ I(2,1) &= 2 \times (-1) + 5 \times (-2) + 5 \times (-1) + 7 \times 0 + 4 \times 0 + 3 \times 0 + 5 \times 0 + 1 + 6 \times 2 + 2 \times 1 = 8 \\ I(2,2) &= 5 \times (-1) + 5 \times (-2) + 3 \times (-1) + 4 \times 0 + 3 \times 0 + 7 \times 0 + 6 \times 1 - 2 \times 1 + 4 \times 1 = 4 \\ I(2,3) &= 5 \times (-1) + 3 \times (-2) + 6 \times (-1) + 3 \times 0 + 1 \times 0 + 3 \times 0 + 2 \times 1 - 4 \times 1 + 3 \times 1 = 7 \\ I(2,4) &= 3 \times (-1) + 6 \times (-2) + 7 \times 0 + 3 \times 0 + 4 \times 1 + 3 \times 2 = 5 \\ I(3,0) &= 7 \times 1 \cdot 2 + 4 \times (-1) + 5 \times 0 + 6 \times 0 + 4 \times 1 + 4 \times 1 = 6 \end{aligned}$$



$$\begin{aligned}
 I(3,1) &= 2 * (-1) + 4 * 1 - 1 + 3 * (-1) + 5 * 0 + 6 * 0 + 2 * 0 + 4 * 1 + 4 * 2 + 5 * 1 = 1 \\
 I(3,2) &= 4 * (-1) 3 * 1 - 2 + 7 * (-1) + 6 * 0 + 2 * 0 + 4 * 0 + 4 * 1 - 5 * 2 + 3 * 1 = 6 \\
 I(3,3) &= 3 * (-1) + 7 * (-2) + 3 * (-1) + 2 * 0 + 4 * 0 + 3 * 0 + 5 * 1 + 3 * 2 + 3 * 1 = 6 \\
 I(3,4) &= 7 * (-1) + 3 * (-2) + 4 * (0) + 3 * 0 + 3 * 1 + 3 * 2 = 2 \\
 I(4,0) &= 5 * (-2) + 6 * (-1) + 4 * 0 + 4 * 0 = 16 \\
 I(4,1) &= 5 * (-1) + 6 * (-2) + 1 * (-1) + 4 * 0 + 1 * 0 + 5 * 0 = 19 \\
 I(4,2) &= 6 * (-1) + 2 * (-2) + 4 * (-1) + 4 * 0 + 5 * 0 + 3 * 0 = 14 \\
 I(4,3) &= 2 * (-1) + 4 * (-2) + 3 * (-1) + 5 * 0 + 3 * 0 + 3 * 0 = 13 \\
 I(4,4) &= 4 * 6 + 3 * 0 + 3 * 2 + 3 * 1 = 21
 \end{aligned}$$

Thay đổi số ma trận:

18	22	22	21	15
3	4	11	13	12
5	8	4	1	5
6	1	6	6	2
26	19	14	13	9

$$G = G_{11} \cup G_{12}$$

$$37 \quad 31 \quad 24 \quad 22 \quad 32$$

$$18 \quad 6 \quad 18 \quad 14 \quad 30$$

$$24 \quad 16 \quad 22 \quad 13 \quad 19$$

$$26 \quad 10 \quad 14 \quad 6 \quad 14$$

$$30 \quad 24 \quad 19 \quad 13 \quad 18$$

HỌC HỌC HỌC

Bài 2:

$$\begin{matrix} 4 & 7 & 4 & 5 & 3 \\ 2 & 5 & 5 & 3 & 6 \\ 7 & 4 & 3 & 7 & 3 \\ 5 & 6 & 2 & 4 & 3 \\ 4 & 1 & 5 & 3 & 3 \end{matrix}$$

$$M_1 = \begin{bmatrix} -1 & 0 & 1 \\ -1 & 0 & 1 \\ -1 & 0 & 1 \end{bmatrix}$$

$$M_2 = \begin{bmatrix} -1 & -1 & -1 \\ 0 & 0 & 0 \\ 1 & 1 & 1 \end{bmatrix}$$

Nhóm chấp marrain nuôi thí:

$$I(0,0) = 4 \times (-1) + 7 \times 0 + 2 \times (-1) + 5 \times 0 = 6$$

$$I(0,1) = 4 \times (-1) + 7 \times 0 + 2 \times 1 + 2 \times (-1) + 5 \times 0 + 5 \times 1 = 3$$

$$I(0,2) = 7 \times (-1) + 4 \times 0 + 5 \times 1 + 5 \times M_1 + 5 \times 0 + 3 \times 1 = 4$$

$$I(0,3) = 4 \times (-1) + 5 \times 0 + 3 \times 1 + 5 \times (-1) + 3 \times 0 + 6 \times 1 = 0$$

$$I(0,4) = 5 \times (-1) + 3 \times 0 + 3 \times (-1) + 6 \times 0 = -8$$

$$I(1,0) = 4 \times (-1) + 7 \times 1 + 2 \times 0 + 5 \times 1 - 7 \times 0 + 4 \times 1 = 16$$

$$I(1,1) = 4 \times (-1) + 7 \times 0 + 4 \times 1 + 2 \times (-1) + 5 \times 0 + 5 \times 1 - 7 \times 0 + 4 \times 1 - 5$$

$$I(1,2) = 7 \times (-1) + 4 \times 0 + 5 \times 1 + 5 \times (-1) + 5 \times 0 + 3 \times 1 - 4 \times (-1) + 3 \times 0 + 1 \times 1 = 7$$

$$I(1,3) = 4 \times (-1) + 5 \times 0 + 3 \times 1 + 5 \times (-1) + 3 \times 0 + 6 \times 1 + 3 \times (-1) + 1 \times 0 + 3 \times 1 = 7$$

$$I(1,4) = 5 \times 0 + 3 \times (-1) + 3 \times 0 + 6 \times 1 + 1 \times 0 + 3 \times 1 = 12$$

$$I(2,0) = 2 \times (-1) + 5 \times 0 + 7 \times \frac{(-1)}{0} + 4 \times \frac{(-1)}{0} + 5 \times \frac{(-1)}{0} + 6 \times 0 - 4 \times 1 = 4$$

$$I(2,1) = 2 \times (-1) + 5 \times 0 + 5 \times 1 + 7 \times (-1) + 4 \times 0 + 3 \times 1 + 5 \times M_1 + 6 \times 0 + 2 \times 1 = 4$$

$$I(2,2) = 5 \times (-1) + 5 \times 0 + 3 \times 1 + 4 \times (-1) + 3 \times 0 + 2 \times 1 + 6 \times (-1) + 2 \times 0 + 4 \times 1 = 7$$

$$I(2,3) = 5 \times (-1) + 3 \times 0 + 6 \times 1 + 3 \times (-1) + 1 \times 0 + 3 \times 1 + 2 \times (-1) + 4 \times 0 + 3 \times 1 = 2$$

$$I(2,4) = 3 \times (-1) + 6 \times 0 + 7 \times (-1) + 3 \times 0 + 4 \times (-1) + 3 \times 0 = 8$$

$$I(3,0) = 7 \times 0 + 4 \times 1 + 5 \times 0 + 6 \times 1 + 4 \times 0 + 4 \times 1 = 14$$

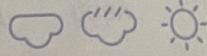
$$I(3,1) = 2 \times (-1) + 4 \times 0 + 3 \times 1 + 5 \times (-1) + 6 \times 0 + 2 \times 1 + 4 \times (-1) \times 4 \times 0 + 5 \times 1 = 6$$

$$I(3,2) = 4 \times (-1) + 3 \times 0 + 7 \times 1 + 6 \times M_1 + 2 \times 0 + 4 \times 1 + 4 \times (-1) + 5 \times 0 + 3 \times 1 = 6$$

$$I(3,3) = 3 \times (-1) + 1 \times 0 + 3 \times 1 + 2 \times M_1 + 4 \times 0 + 3 \times 1 + 5 \times (-1) \times 3 \times 0 + 3 \times 1 = 1$$

$$I(3,4) = 1 \times (-1) + 3 \times 0 + 4 \times (-1) \times 3 \times 0 + 3 \times (-1) + 3 \times 0 = 8$$

$$I(4,0) = 5 \times (-1) + 6 \times 0 - 4 \times (-1) + 4 \times 0 = 9$$



$$\begin{aligned} I(4,1) &= 5 \times 1 + 6 \times 0 + 2 \times 1 + 4 \times (-1) + 4 \times 0 + 5 \times 1 = 8 \\ I(4,2) &= 6 \times (-1) - 2 \times 0 + 4 \times 1 + 4 \times (-1) + 5 \times 0 + 3 \times 1 = 3 \\ I(4,3) &= 2 \times (-1) + 4 \times 0 + 3 \times 1 + 5 \times (-1) + 3 \times 0 + 3 \times 1 = 1 \\ I(4,4) &= 4 \times 5 + 3 \times 4 + 3 \times 0 + 3 \times 1 + 3 \times 0 = 27 \end{aligned}$$

~~Nhóm chay mìn mìn~~

Thứ tự matrix 1

$$\begin{matrix} 6 & 3 & 4 & 0 & 8 \end{matrix}$$

$$\begin{matrix} 16 & 5 & 0 & 7 & 12 & 12 \end{matrix}$$

$$\begin{matrix} 1 & 4 & 2 & 5 & 2 & 8 \end{matrix}$$

$$\begin{matrix} 14 & 8 & 6 & 2 & 1 & 8 \end{matrix}$$

$$\begin{matrix} 9 & 1 & 2 & 3 & 7 & 7 \end{matrix}$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

$$f = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 = 136$$

Nhận dạng ma trận kích thước

$$I(0,0) = 4 \times 0 + 2 \times 0 + 2 \times 1 = 2$$

$$I(0,1) = 2 \times (-1) + 7 \times (-1) + 1 \times (-1) + 2 \times 0 + 5 \times 0 + 5 \times 1 = -7$$

$$I(0,2) = 7 \times (-1) + 4 \times (-1) + 5 \times (-1) + 5 \times 0 + 5 \times 0 + 3 \times 1 = -15$$

$$I(0,3) = 4 \times (-1) + 5 \times (-1) + 3 \times (-1) + 5 \times 0 + 5 \times 0 + 3 \times 1 = -16$$

$$I(0,4) = 5 \times (-1) + 3 \times (-1) + 3 \times 0 + 5 \times 0 + 3 \times 0 + 6 \times 1 = -12$$

$$I(1,0) = 4 \times (-1) + 7 \times (-1) + 3 \times 0 + 6 \times 0 = -8$$

$$I(1,1) = 7 \times (-1) + 4 \times (-1) + 3 \times (-1) + 5 \times 0 + 7 \times 1 + 4 \times 1 = 0$$

~~$$I(1,2) = 4 \cancel{(-1)} + 3 \cancel{(-1)} + 1 \cancel{(-1)} + 6 \cancel{(-1)} + 2 \cancel{(-1)} + 2 \cancel{(-1)} + 4 \cancel{(-1)} + 5 \cancel{(-1)} = 0$$~~

~~$$I(1,1) = 2 \cancel{(-1)} + 7 \cancel{(-1)} + 4 \cancel{(-1)} + 2 \cancel{(-1)} + 5 \cancel{(-1)} + 7 \cancel{(-1)} + 4 \cancel{(-1)} = 0$$~~

~~$$I(1,1) = 7 \times (-1) + 4 \times (-1) + 5 \times (-1) + 5 \times 0 + 7 \times 1 + 4 \times 1 = -1$$~~

~~$$I(1,3) = 4 \times (-1) + 5 \times (-1) + 3 \times (-1) + 5 \times 0 + 5 \times 0 + 4 \times 1 + 3 \times 1 + 1 \times 1 = -8$$~~

~~$$I(1,4) = 5 \times (-1) + 3 \times 0 + 3 \times 0 + 6 \times 0 + 3 \times 1 + 1 \times 1 + 3 \times 1 = 5$$~~

~~$$I(1,0) = 2 \times (-1) + 5 \times (-1) + 7 \times 0 + 4 \times 0 + 5 \times 1 + 6 \times 1 = -4$$~~

~~$$I(2,1) = 2 \times (-1) + 5 \times (-1) + 5 \times (-1) + 7 \times 0 + 2 \times 0 + 3 \times 0 + 5 \times 1 + 6 \times 1 + 2 \times 1 = 1$$~~

~~$$I(2,2) = 5 \times (-1) + 5 \times (-1) + 3 \times (-1) + 4 \times 0 + 3 \times 0 + 1 \times 0 + 6 \times 1 + 2 \times 1 + 4 \times 1 = -1$$~~

~~$$I(2,3) = 5 \times (-1) + 3 \times (-1) + 6 \times (-1) + 3 \times 0 + 1 \times 0 + 3 \times 0 + 2 \times 1 + 4 \times 1 + 3 \times 1 = -5$$~~

~~$$I(2,4) = 3 \times (-1) + 6 \times (-1) + 7 \times 0 + 3 \times 0 + 4 \times 1 + 3 \times 1 = 2$$~~

~~$$I(3,0) = 7 \times (-1) + 4 \times (-1) + 5 \times 0 + 6 \times 0 + 4 \times 1 + 4 \times 1 = 3$$~~

~~$$I(3,1) = 7 \times (-1) + 4 \times (-1) + 3 \times (-1) + 5 \times 0 + 6 \times 0 + 2 \times 0 + 4 \times 1 + 4 \times 1 + 5 \times 1 = 1$$~~

~~$$I(3,2) = 4 \times (-1) + 3 \times (-1) + 1 \times (-1) + 6 \times 0 + 2 \times 0 + 4 \times 0 + 4 \times 1 + 5 \times 1 + 3 \times 1 = -4$$~~

~~$$I(3,3) = 3 \times (-1) + 1 \times (-1) + 3 \times (-1) + 2 \times 0 + 4 \times 0 + 3 \times 0 + 5 \times 1 + 3 \times 1 + 1 \times 1 = 4$$~~

~~$$I(3,4) = 1 \times (-1) + 3 \times (-1) + 4 \times 0 + 3 \times 0 + 3 \times 1 + 3 \times 1 = 2$$~~

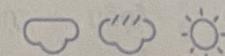
~~$$I(4,0) = 5 \times (-1) + 6 \times (-1) + 4 \times 0 + 4 \times 0 + 9 \times 0 = -11$$~~

~~$$I(4,1) = 5 \times (-1) + 6 \times (-1) + 2 \times (-1) + 4 \times 0 + 4 \times 0 + 6 \times 0 + 5 \times 0 = 13$$~~

~~$$I(4,2) = 6 \times (-1) + 2 \times (-1) + 4 \times (-1) + 4 \times 0 + 5 \times 0 + 3 \times 0 = -12$$~~

~~$$I(4,3) = 2 \times (-1) + 4 \times (-1) + 3 \times (-1) + 5 \times 0 + 3 \times 0 + 3 \times 0 + 3 \times 0 = 9$$~~

~~$$I(4,4) = 4 \times (-1) + 3 \times (-1) + 3 \times 0 + 3 \times 0 = -9$$~~



Thứ tự số mìn chì:

7	15	16	12	8
0	1	8	5	4
4	7	1	5	2
3	7	4	4	2
10	11	13	12	9

G1 + G12 + G2

P = 108 + 13 + 18 + 20 + 12 + 16
16 - 16 + 15 + 12 + 8 + 16
8 - 5 + 8 + 7 + 16
17 - 7 + 10 + 5 + 10
20 - 15 + 15 - 10 + 14

Đợt 3:

Thứ ngày

4	7	4	7	3	-3	-3	-3
2	5	5	3	6	H <sub>1</sub> = -3	0	5
2	4	3	1	3	-3	5	5
5	6	2	4	3			
4	4	5	3	3			

$$I(0,0) = 4 \times (-3) + 7 \times 5 + 2 \times 5 + 5 \times 5 = 70$$

$$I(0,1) = 4 \times (-3) + 7 \times (-3) + 4 \times 5 + 2 \times (-3) + 5 \times 0 + 5 \times 5 = 27$$

$$I(0,2) = 7 \times (-3) + 4 \times (-3) + 7 \times (5) + 5 \times (-3) + 5 \times 0 + 3 \times 5 = 39$$

$$I(0,3) = 4 \times (-3) + 7 \times (-3) + 3 \times (-3) + 5 \times (-3) + 5 \times 0 + 3 \times 5 = 76$$

$$I(0,4) = 7 \times (-3) + 3 \times 0 + 3 \times (-3) + 6 \times 5 = 0$$

$$I(1,0) = 4 \times (-3) + 7 \times (-3) + 2 \times 0 + 5 \times 5 + 7 \times 5 + 4 \times 5 = -47$$

$$I(1,1) = 4 \times (-3) + 7 \times (-3) + 4 \times (-3) + 2 \times (-3) + 5 \times 0 + 5 \times 5 + 7 \times (-3) + 4 \times 5 + 3 \times 5 = 12$$

$$I(1,2) = 7 \times (-3) + 4 \times (-3) + 7 \times (-3) + 5 \times (-3) + 5 \times 0 + 3 \times 5 + 4 \times (-3) + 3 \times 5 + 1 \times 5 = 46$$

$$I(1,3) = 5 \times (-3) + 3 \times (-3) + 6 \times (-3) + 3 \times (-3) + 1 \times 0 + 3 \times 5 + 2 \times (-3) + 4 \times 5 + 3 \times 5 = 7$$

$$I(2,0) = 7 \times (-3) + 3 \times (-3) + 3 \times (-3) + 6 \times 0 + 1 \times (-3) + 3 \times 5 = 36$$

$$I(2,1) = 2 \times (-3) + 5 \times (-3) + 7 \times 0 + 4 \times 5 + 5 \times 5 + 6 \times 5 = 54$$

$$I(2,2) = 7 \times (-3) + 5 \times (-3) + 5 \times (-3) + 7 \times (-3) + 4 \times 0 + 3 \times 5 + 5 \times (-3) + 6 \times 5 + 2 \times 5 = -17$$

$$I(2,3) = 5 \times (-3) + 5 \times (-3) + 3 \times (-3) + 4 \times (-3) + 3 \times 0 + 1 \times 5 + 6 \times (-3) + 2 \times 5 + 4 \times 5 = -34$$

$$I(2,4) = 5 \times (-3) + 3 \times (-3) + 6 \times (-3) + 3 \times (-3) + 1 \times 0 + 3 \times 5 + 2 \times (-3) + 1 \times 5 + 3 \times 5 = 7$$

$$I(2,5) = 3 \times (-3) + 6 \times (-3) + 1 \times (-3) + 3 \times 0 + 4 \times 5 + 3 \times 5 = 23$$

$$I(3,0) = 7 \times (-3) + 4 \times (-3) + 5 \times 0 + 6 \times 5 + 4 \times 5 + 4 \times 5 = 37$$

$$I(3,1) = 5 \times (-3) + 6 \times (-3) + 2 \times (-3) + 4 \times (-3) + 4 \times 0 + 5 \times 5 = 26$$

$$I(3,2) = 6 \times (-3) + 2 \times (-3) + 4 \times (-3) + 2 \times (-3) + 5 \times 0 + 3 \times 5 = 33$$

$$I(3,3) = 2 \times (-3) + 4 \times (-3) + 3 \times (-3) + 5 \times (-3) + 3 \times 0 + 3 \times 5 = 27$$

$$I(3,4) = 4 \times (-3) + 3 \times (-3) + 3 \times (-3) + 3 \times 0 = 30$$

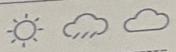
$$I(4,0) = 5 \times (-3) + 6 \times (-3) + 4 \times 0 + 4 \times 5 = 13$$

$$I(4,1) = 5 \times (-3) + 6 \times (-3) + 2 \times (-3) + 4 \times 0 + 4 \times 5 + 5 \times 5 = 26$$

$$I(4,2) = 6 \times (-3) + 8 \times (-3) + 4 \times (-3) + 4 \times (-3) + 5 \times 0 + 3 \times 5 = 33$$

$$I(4,3) = 2 \times (-3) + 4 \times (-3) + 3 \times (-3) + 5 \times (-3) + 3 \times 0 + 3 \times 5 = 36$$

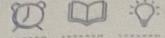
$$I(4,4) = 4 \times (-3) + 3 \times (-3) + 3 \times (-3) + 3 \times 0 = 6$$



Thứ ngày

Má trán gần khinhan vài H1

70	27	39	76	0
47	17	46	7	36
<del>56</del>	<del>54</del>	<del>77</del>	<del>34</del>	<del>7</del>
54	17	34	7	23
37	26	33	27	30
13	26	33	36	6



Thứ ngày

4	7	4	7	3
2	5	5	3	6
7	4	3	1	3
5	6	2	4	3
2	4	5	3	3

$$H_1 = \begin{matrix} -3 & -3 & -3 \\ -3 & 0 & -3 \\ 5 & 5 & 5 \end{matrix}$$

$$I(0,0) = 4 * 0 + 7 * (-3) + 2 * 5 + 5 * 5 = 23$$

$$I(0,1) = 4 * (-3) + 7 * 0 + 4 * (-3) + 2 * (-3) + 5 * 0 + 5 * 5 = 20$$

$$I(0,2) = 7 * (-3) + 4 * 0 + 7 * (-3) + 5 * 5 + 5 * 3 + 5 = 23$$

$$I(0,3) = 4 * (-3) + 7 * 0 + 3 * (-3) + 5 * 5 + 3 * 5 + 6 * 5 = 29$$

$$I(0,4) = 7 * (-3) + 3 * 0 + 3 * 5 + 6 * 5 = 24$$

$$I(1,0) = 4 * (-3) + 7 * (-3) + 2 * 0 + 5 * (-3) + 7 * 5 + 4 * 5 = 7$$

$$I(1,1) = 4 * (-3) + 7 * (-3) + 1 * (-3) + 2 * (-3) + 5 * 0 + 5 * (-3) + 7 * 5 + 4 * 5 + 3 * 5 = 4$$

$$I(1,2) = 7 * (-3) + 4 * (-3) + 7 * (-3) + 5 * (-3) + 5 * 0 + 3 * (-3) + 4 * 5 + 3 * 5 + 1 * 5 = 38$$

$$I(1,3) = 5 * (-3) + 3 * (-3) + 6 * (-3) + 3 * (-3) + 1 * 0 + 3 * (-3) + 2 * 5 + 4 * 5 + 3 * 5 = 15$$

$$I(1,4) = 7 * (-3) + 3 * (-3) + 3 * (-3) + 6 * 0 + 1 * 5 + 3 * 5 = 19$$

$$I(2,0) = 2 * (-3) + 5 * (-3) + 7 * (-3) + 1 * 0 + 5 * 5 + 6 * 5 = 13$$

$$I(2,1) = 2 * (-3) + 5 * (-3) + 5 * (-3) + 7 * (-3) + 4 * (-3) + 3 * 0 + 5 * 5 + 6 * 5 + 2 * 5 = 1$$

$$I(2,2) = 5 * (-3) + 5 * (-3) + 3 * (-3) + 4 * (-3) + 3 * 0 + 1 * (-3) + 6 * 2 * 5 + 4 * 5 = 6$$

$$I(2,3) = 5 * (-3) + 3 * (-3) + 6 * (-3) + 3 * (-3) + 1 * 0 + 3 * (-3) + 2 * 5 + 4 * 5 + 3 * 5 = 15$$

$$I(2,4) = 3 * (-3) + 6 * (-3) + 1 * (-3) + 3 * 0 + 4 * 5 + 3 * 5 = 5$$

$$I(3,0) = 7 * (-3) + 4 * (-3) + 5 * 0 + 6 * (-3) + 4 * 5 + 4 * 5 = 11$$

$$I(3,1) = 7 * (-3) + 4 * (-3) + 3 * (-3) + 5 * (-3) + 6 * 0 + 2 * (-3) + 4 * 5 + 4 * 5 + 5 * 5 = 2$$

$$I(3,2) = 4 * (-3) + 3 * (-3) + 1 * (-3) + 6 * (-3) + 2 * 0 + 4 * (-3) + 4 * 5 + 5 * 5 + 3 * 5 = 6$$

$$I(3,3) = 3 * (-3) + 1 * (-3) + 3 * (-3) + 7 * (-3) + 4 * 0 + 3 * (-3) + 5 * 5 + 3 * 5 + 3 * 5 = 11$$

$$I(3,4) = 4 * (-3) + 3 * (-3) + 4 * (-3) + 3 * 0 + 4 * 5 + 3 * 5 = 6$$

$$I(4,0) = 5 * (-3) + 6 * 0 + 4 * 5 + 4 * 5 = 25$$

$$I(4,1) = 5 * (-3) + 6 * (-3) + 2 * (-3) + 7 * (-3) + 4 * (-3) + 4 * (-3) + 6 * 0 + 5 * (-3) = 66$$

$$I(4,2) = 6 * (-3) + 2 * (-3) + 4 * (-3) + 4 * (-3) + 4 * (-3) + 5 * 0 + 3 * (-3) = 72$$

$$I(4,3) = 2 * (-3) + 4 * (-3) + 3 * (-3) + 5 * (-3) + 3 * 0 + 3 * (-3) = 51$$

$$I(4,4) = 4 * (-3) + 3 * (-3) + 3 * (-3) + 3 * 0 = 30$$



Thứ ngày

Máy tính nhanh khi nhân với H2

23 20 23 49 24

7 4 38 195 19

13 1 6 15 5

11 2 6 11 6

25 66 - 72 51 30



Thứ ngày

4	7	9	7	3		-3	-3	-3
2	5	5	3	6	$H_3 =$	5	0	-3
7	4	3	1	3		5	5	-3
5	6	2	4	3				
4	4	5	3	3				

$$I(0,0) = -3 \cdot (12) + 5 \cdot 2 = 26$$

$$I(0,1) = -3 \cdot (9) + 5 \cdot 17 = 28$$

$$I(0,2) = -3 \cdot (10) + 5 \cdot 17 = 55$$

$$I(0,3) = -3 \cdot 9 + 5 \cdot 12 = 33$$

$$I(0,4) = -3 \cdot 5 + 5 \cdot 16 = 80$$

$$I(1,0) = -3 \cdot 70 + 5 \cdot 7 = 25$$

$$I(1,1) = -3 \cdot (16) + 5 \cdot 13 = 17$$

$$I(1,2) = -3 \cdot 72 + 5 \cdot 70 = 34$$

$$I(1,3) = -3 \cdot 70 + 5 \cdot 9 = 95$$

$$I(1,4) = -3 \cdot 10 + 5 \cdot 7 = 5$$

$$I(2,0) = -3 \cdot 17 + 5 \cdot 5 = 26$$

$$I(2,1) = -3 \cdot 72 + 5 \cdot 18 = 24$$

$$I(2,2) = -3 \cdot 78 + 5 \cdot 12 = 6$$

$$I(2,3) = -3 \cdot 70 + 5 \cdot 9 = 15$$

$$I(2,4) = -3 \cdot 9 + 5 \cdot 8 = 13$$

$$I(3,0) = -3 \cdot 21 + 5 \cdot 4 = 16$$

$$I(3,1) = -3 \cdot 21 + 5 \cdot 13 = 2$$

$$I(3,2) = -3 \cdot 15 + 5 \cdot 15 = 30$$

$$I(3,3) = -3 \cdot 16 + 5 \cdot 10 = 2$$

$$I(3,4) = -3 \cdot 4 + 5 \cdot 10 = 38$$

$$I(4,0) = -3 \cdot 15 = 45$$

$$I(4,1) = -3 \cdot 18 + 5 \cdot 11 = 34$$

$$I(4,2) = -3 \cdot 15 + 5 \cdot 4 = 205$$

$$I(4,3) = -3 \cdot 12 + 5 \cdot 5 = 11$$

$$I(4,4) = -3 \cdot 7 + 5 \cdot 3 = 6$$



Thứ ngày

Máy tính thu được sau khi nhận nút H3

26 28 55 33 80

25 17 34 15 5

26 24 6 15 13

16 2 30 + 2 38 - 10 11

45 34 25 11 8 6



Thứ ngày

4	7	4	7	3	H4 =	5	-3	-3
2	5	5	3	6		5	0	-3
7	4	3	1	3		5	-3	-3
5	6	2	4	3				
4	4	5	3	3				

$$I(0,0) = -3 \cdot 14 - 42$$

$$I(0,1) = -3 \cdot 14 + 5 \cdot 6 - 12$$

$$I(0,2) = -3 \cdot 15 + 5 \cdot 12 = 15$$

$$I(0,3) = -3 \cdot 12 + 5 \cdot 9 = 9$$

$$I(0,4) = -3 \cdot 6 + 5 \cdot 10 = 32$$

$$I(1,0) = -3 \cdot 17 = 81$$

$$I(1,1) = -3 \cdot 13 + 5 \cdot 13 = 4$$

$$I(1,2) = -3 \cdot 18 + 5 \cdot 16 = 26$$

$$I(1,3) = -3 \cdot 20 + 5 \cdot 12 = 0$$

$$I(1,4) = -3 \cdot 6 + 5 \cdot 11 = 37$$

$$I(2,0) = -3 \cdot 22 = 66$$

$$I(2,1) = -3 \cdot 21 + 5 \cdot 14 = 7$$

$$I(2,2) = -3 \cdot 15 + 5 \cdot 15 = 30$$

$$I(2,3) = -3 \cdot 19 + 5 \cdot 10 = 7$$

$$I(2,4) = -3 \cdot 9 + 5 \cdot 8 = 13$$

$$I(3,0) = -3 \cdot 25 = 75$$

$$I(3,1) = -3 \cdot 18 + 5 \cdot 16 = 26$$

$$I(3,2) = -3 \cdot 16 + 5 \cdot 14 = 22$$

$$I(3,3) = -3 \cdot 13 + 5 \cdot 10 = 39$$

$$I(3,4) = -3 \cdot 6 + 5 \cdot 8 = 22$$

$$I(4,0) = -3 \cdot 15 = 45$$

$$I(4,1) = -3 \cdot 13 + 5 \cdot 9 = 6$$

$$I(4,2) = -3 \cdot 9 + 5 \cdot 10 = 23$$

$$I(4,3) = -3 \cdot 13 + 5 \cdot 7 = 4$$

$$I(4,4) = -3 \cdot 3 + 5 \cdot 7 = 26$$



Thứ ngày

Mặt trời + mây + mưa = San hô nhân tạo: 119:

42 12 15 9 32

81 4 76 0 37

66 7 30 2 13

75 26 22 39 22

45 6 23 4 26



4 7 4 7 3

2 5 5 3 6

7 4 3 7 3

5 6 2 4 3

4 2 5 3 3

Thứ ngày

H 5 = 5 5 - 3

5 0 - 3

- 3 - 3 - 3

$$I(0,0) = -3 \cdot 11 + 5 \cdot 1 = 42$$

$$I(0,1) = -3 \cdot 9 + 5 \cdot 13 = 38$$

$$I(0,2) = -3 \cdot 10 + 5 \cdot 5 = 50$$

$$I(0,3) = -3 \cdot 9 + 5 \cdot 16 = 53$$

$$I(0,4) = -3 \cdot 9 + 5 \cdot 7 = 8$$

$$I(1,0) = -3 \cdot 23 + 5 \cdot 1 = 49$$

$$I(1,1) = -3 \cdot 23 + 5 \cdot 13 = 4$$

$$I(1,2) = -3 \cdot 17 + 5 \cdot 16 = 29$$

$$I(1,3) = -3 \cdot 16 + 5 \cdot 16 = 32$$

$$I(1,4) = -3 \cdot 8 + 5 \cdot 13 = 53$$

$$I(2,0) = -3 \cdot 20 + 5 \cdot 2 = 50$$

$$I(2,1) = -3 \cdot 21 + 5 \cdot 14 = 7$$

$$I(2,2) = -3 \cdot 16 + 5 \cdot 14 = 22$$

$$I(2,3) = -3 \cdot 18 + 5 \cdot 11 = 7$$

$$I(2,4) = -3 \cdot 7 + 5 \cdot 10 = 29$$

$$I(3,0) = -3 \cdot 18 + 5 \cdot 7 = 19$$

$$I(3,1) = -3 \cdot 18 + 5 \cdot 16 = 26$$

$$I(3,2) = -3 \cdot 17 + 5 \cdot 13 = 44$$

$$I(3,3) = -3 \cdot 17 + 5 \cdot 6 = 21$$

$$I(3,4) = -3 \cdot 6 + 5 \cdot 8 = 22$$

$$I(4,0) = -3 \cdot 10 + 5 \cdot 5 = 5$$

$$I(4,1) = -3 \cdot 7 + 5 \cdot 15 = 54$$

$$I(4,2) = -3 \cdot 7 + 5 \cdot 12 = 39$$

$$I(4,3) = -3 \cdot 6 + 5 \cdot 11 = 37$$

$$I(4,4) = -3 \cdot 5 + 5 \cdot 10 = 50$$



Thứ ngày

Matrice thuần vị sau khi nhân với: H<sub>5</sub>

42	38	50	53	8
49	4	29	32	53
50	7	72	1	29
19	26	44	21	22
5	54	39	37	50



Thứ ngày

4	7	4	7	3			
2	5	5	3	6	H6 =	5	5
7	4	3	7	3		-3	0
5	6	2	4	3		-3	-3
4	4	5	3	3			

$$I(0,0) = -3 \cdot 14 + 42$$

$$I(0,1) = -3 \cdot 20 = 60$$

$$I(0,2) = -3 \cdot 27 = 81$$

$$I(0,3) = -3 \cdot 21 = 63$$

$$I(0,4) = -3 \cdot 16 = 48$$

$$I(0,5) = -3 \cdot 29 + 5 \cdot 15 = -3 \cdot 16 + 5 \cdot 11 = 7$$

$$I(1,1) = -3 \cdot 21 + 5 \cdot 15 = 12$$

$$I(1,2) = -3 \cdot 16 + 5 \cdot 18 = 42$$

$$I(1,3) = -3 \cdot 18 + 5 \cdot 14 = 16$$

$$I(1,4) = -3 \cdot 7 + 5 \cdot 10 = 29$$

$$I(1,5) = -3 \cdot 15 + 5 \cdot 7 = 10$$

$$I(2,1) = -3 \cdot 23 + 5 \cdot 12 = 9$$

$$I(2,2) = -3 \cdot 17 + 5 \cdot 12 = 9$$

$$I(2,3) = -3 \cdot 15 + 5 \cdot 14 = 25$$

$$I(2,4) = -3 \cdot 9 + 5 \cdot 9 = 21$$

$$I(2,5) = -3 \cdot 14 + 5 \cdot 11 = 13$$

$$I(3,1) = -3 \cdot 20 + 5 \cdot 14 = 16$$

$$I(3,2) = -3 \cdot 27 + 5 \cdot 8 = 26$$

$$I(3,3) = -3 \cdot 16 + 5 \cdot 7 = 13$$

$$I(3,4) = -3 \cdot 10 + 5 \cdot 4 = 10$$

$$I(4,0) = -3 \cdot 4 + 5 \cdot 11 = 43$$

$$I(4,1) = -3 \cdot 9 + 5 \cdot 13 = 38$$

$$I(4,2) = -3 \cdot 7 + 5 \cdot 16 = 59$$

$$I(4,3) = -3 \cdot 8 + 5 \cdot 9 = 21$$

$$I(4,4) = -3 \cdot 3 + 5 \cdot 10 = 41$$



Thứ ngày

Máy tính khu định sẵn khi nhận nói H6

62	60	81	63	48
7	12	42	16	29
10	9	9	25	21
13	10	26	13	10
43	38	59	21	41



Thứ ngày

4	7	4	7	3
2	5	5	3	6
2	4	3	1	3
5	6	2	4	3
4	4	5	3	3

$$H_2 = \begin{pmatrix} -3 & 5 & 5 \\ -3 & 0 & 5 \\ -3 & -3 & -3 \end{pmatrix}$$

$$I(0,0) = -3 \cdot 7 + 5 \cdot 7 = 14$$

$$I(0,1) = -3 \cdot 16 + 5 \cdot 4 = 28$$

$$I(0,2) = -3 \cdot 20 + 5 \cdot 7 = 25$$

$$I(0,3) = -3 \cdot 18 + 5 \cdot 3 = 39$$

$$I(0,4) = -3 \cdot 16 = 48$$

$$I(1,0) = -3 \cdot 11 + 5 \cdot 16 = 47$$

$$I(1,1) = -3 \cdot 20 + 5 \cdot 16 = 70$$

$$I(1,2) = -3 \cdot 20 + 5 \cdot 14 = 10$$

$$I(1,3) = -3 \cdot 16 + 5 \cdot 16 = 32$$

$$I(1,4) = -3 \cdot 11 + 5 \cdot 6 = 3$$

$$I(2,0) = -3 \cdot 11 + 5 \cdot 11 = 22$$

$$I(2,1) = -3 \cdot 22 + 5 \cdot 13 = 1$$

$$I(2,2) = -3 \cdot 21 + 5 \cdot 9 = 18$$

$$I(2,3) = -3 \cdot 17 + 5 \cdot 12 = 9$$

$$I(2,4) = -3 \cdot 11 + 5 \cdot 6 = 3$$

$$I(3,0) = -3 \cdot 11 + 5 \cdot 13 = 32$$

$$I(3,1) = -3 \cdot 20 + 5 \cdot 9 = 30$$

$$I(3,2) = -3 \cdot 22 + 5 \cdot 8 = 26$$

$$I(3,3) = -3 \cdot 16 + 5 \cdot 7 = 13$$

$$I(3,4) = -3 \cdot 11 + 5 \cdot 3 = 18$$

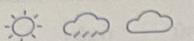
$$I(4,0) = 5 \cdot 15 = 75$$

$$I(4,1) = -3 \cdot 9 + 5 \cdot 13 = 38$$

$$I(4,2) = -3 \cdot 10 + 5 \cdot 9 = 15$$

$$I(4,3) = -3 \cdot 7 + 5 \cdot 10 = 29$$

$$I(4,4) = -3 \cdot 7 + 5 \cdot 3 = 6$$



Thứ ngày

Má trận phun nước sau khi nhận nón H7:

14 28 75 39 48

47 20 10 32 3

22 1 18 9 3

32 30 76 13 18

75 38 15 29 6



Thứ ngày

4	2	4	7	3
2	5	5	3	6
2	4	3	1	3
5	6	2	4	3
4	4	5	3	3

H8:	-3	-3	5
	-3	0	5
	-3	-3	5

$$I(0,0) = -3 \cdot 2 + 5 \cdot 7 = 54$$

$$I(0,1) = -3 \cdot 11 + 5 \cdot 9 = 12$$

$$I(0,2) = -3 \cdot 17 + 5 \cdot 10 = 1$$

$$I(0,3) = -3 \cdot 12 + 5 \cdot 9 = 9$$

$$I(0,4) = -3 \cdot 16 = 48$$

$$I(1,0) = -3 \cdot 11 + 5 \cdot 16 = 47$$

$$I(1,1) = -3 \cdot 14 + 5 \cdot 12 = 12$$

$$I(1,2) = -3 \cdot 23 + 5 \cdot 17 = 14$$

$$I(1,3) = -3 \cdot 20 + 5 \cdot 12 = 0$$

$$I(1,4) = -3 \cdot 17 = 51$$

$$I(2,0) = -3 \cdot 7 + 5 \cdot 15 = 54$$

$$I(2,1) = -3 \cdot 25 + 5 \cdot 10 = 25$$

$$I(2,2) = -3 \cdot 11 + 5 \cdot 8 = 26$$

$$I(2,3) = -3 \cdot 17 + 5 \cdot 8 = 11$$

$$I(2,4) = -3 \cdot 17 + 5 \cdot 8 = 51$$

$$I(3,0) = -3 \cdot 11 + 5 \cdot 14 = 37$$

$$I(3,1) = -3 \cdot 20 + 5 \cdot 10 = 10$$

$$I(3,2) = -3 \cdot 12 + 5 \cdot 8 = 26$$

$$I(3,3) = -3 \cdot 14 + 5 \cdot 8 = 2$$

$$I(3,4) = -3 \cdot 14 + 5 \cdot 8 = 42$$

$$I(4,0) = -3 \cdot 5 + 5 \cdot 10 = 35$$

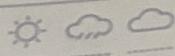
$$I(4,1) = -3 \cdot 15 + 5 \cdot 7 = 90$$

$$I(4,2) = -3 \cdot 12 + 5 \cdot 7 = 1$$

$$I(4,3) = -3 \cdot 11 + 5 \cdot 6 = 3$$

$$I(4,4) = -3 \cdot 10 = 30$$

Thứ ngày



Máy tính thời tiết sao Hg:

54	72	1	5	48
47	72	14	0	51
54	75	26	11	51
37	10	26	2	42
35	10	1	3	30

16.1 - max 1Gn

70	60	81	63	80
81	70	46	32	53
66	25	34	25	51
75	30	44	39	42
75	66	72	51	50

Bài 4. **VHONH**

4	7	4	5	3
2	5	5	3	6
7	4	3	7	3
5	6	2	4	3
4	4	5	3	3

0 -1 0  
-1 4 (-1)  
0 -1 0

$$I(0,0) = 4 * (4) + 7 * (-1) + 2 * (-1) + 5 * 0 = 7$$

$$I(0,1) = 4 * 0 + 7 * (-1) + 4 * 0 + 8 * (-1) + 5 * 4 + 5 * (-1) = 6$$

$$I(0,2) = 7 * 0 + 4 * (-1) + 5 * 0 + 5 * (-1) + 5 * 4 + 3 * (-1) = 8$$

$$I(0,3) = 4 * 0 + 5 * (-1) + 3 * 0 + 5 * (-1) + 3 * 4 + 6 * (-1) = 4$$

$$I(0,4) = 5 * (-1) + 3 * 4 + 3 * 0 + 6 * (-1) = 1$$

$$I(1,0) = 4 * (-1) + 7 * 0 + 2 * 4 + 5 * (-1) + 7 * (-1) + 4 * 0 = 8$$

$$I(1,1) = 4 * 0 + 7 * (-1) + 4 * (-1) + 2 * 4 + 5 * 4 + 5 * 0 + 7 * 0 + 4 * (-1) + 3 * 0 = 2$$

$$I(1,2) = 7 * 0 + 4 * (-1) + 5 * 0 + 5 * (-1) + 5 * 4 + 3 * (-1) + 4 * 0 + 3 * (-1) + 1 * 0 = 5$$

$$I(1,3) = 4 * 0 + 5 * (-1) + 3 * 0 + 5 * (-1) + 3 * 4 + 6 * (-1) + 3 * 0 + 1 * (-1) + 3 * 0 = 6$$

$$I(1,4) = 5 * 0 + 3 * (-1) + 3 * (-1) + 6 * 4 + 1 * 0 + 3 * (-1) = 15$$

$$I(2,0) = 2 * (-1) + 5 * 0 + 7 * 4 + 4 * (-1) + 5 * (-1) + 6 * 0 = 17$$

$$I(2,1) = 2 * 0 + 5 * (-1) + 5 * 0 + 7 * (-1) + 4 * 4 + 3 * (-1) + 5 * 0 + 6 * (-1) + 2 * 0 = 5$$

$$I(2,2) = 5 * 0 + 5 * (-1) + 3 * 0 + 4 * (-1) + 3 * 4 + 1 * (-1) + 6 * 0 + 2 * (-1) + 4 * 0 = 0$$

$$I(2,3) = 5 * 0 + 3 * (-1) + 6 * 0 + 3 * (-1) + 1 * 4 + 3 * (-1) + 2 * 0 + 4 * (-1) + 3 * 0 = 9$$

$$I(2,4) = 3 * 0 + 6 * (-1) + 1 * (-1) + 3 * 4 + 4 * 0 + 3 * (-1) = 2$$

$$I(3,0) = 7 * (-1) + 4 * 0 + 5 * (-1) + 6 * 4 + 4 * 0 + 4 * (-1) = 8$$

$$I(3,1) = 7 * 0 + 4 * (-1) + 3 * 0 + 5 * (-1) + 6 * 4 + 2 * (-1) + 4 * 0 + 4 * (-1) + 5 * 0 = 9$$

$$I(3,2) = 4 * 0 + 3 * (-1) + 1 * 0 + 6 * (-1) + 2 * 4 + 4 * (-1) + 4 * 0 + 5 * (-1) + 3 * 0 = 10$$

$$I(3,3) = 3 * 0 + 1 * (-1) + 3 * 0 + 2 * (-1) + 4 * 4 + 3 * (-1) + 5 * 0 + 3 * (-1) + 3 * 0 = 7$$

$$I(3,4) = 1 * 0 + 3 * (-1) + 4 * (-1) + 3 * 4 + 3 * 0 + 3 * (-1) = 2$$

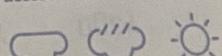
$$I(4,0) = 5 * (-1) + 6 * 0 + 4 * 4 + 4 * (-1) = 7$$

$$I(4,1) = 5 * 0 + 6 * (-1) + 2 * 0 + 4 * (-1) + 4 * 4 + 5 * (-1) = 1$$

$$I(4,2) = 6 * 0 + 2 * (-1) + 4 * 0 + 4 * (-1) + 5 * 4 + 3 * (-1) = 11$$

$$I(4,3) = 2 * 0 + 4 * (-1) + 3 * 0 + 5 * (-1) + 3 * 4 + 3 * (-1) = 0$$

$$I(4,4) = 2 * 0 + 4 * (-1) + 3 * 0 + 5 * (-1) + 3 * 4 + 3 * (-1) = 6$$



Thứ nhất mìn

7	6	8	4	1
8	2	5	6	15
17	10	0	9	2
8	9	10	7	2
7	1	11	0	6

$$C = 9 \times 2 + 10 \times 5 + 11 \times 8 + 10 \times 12$$

$$A = (N-2) \times 2 + 8 \times 10 + 11 \times 8 + 12 \times 10$$

$$B = (N-1) \times 3 + 10 \times 12 + 0 \times 2 + 11 \times 10 + 12 \times 10$$

$$D = (N-1) \times 2 + 10 \times 8 + 11 \times 10 + 12 \times 10$$

$$E = (N-1) \times 2 + 10 \times 8 + 11 \times 10 + 12 \times 10$$

$$F = 0 \times 8 + (N-1) \times 2 + 10 \times 8 + 11 \times 10 + 12 \times 10$$

$$G = 0 \times 8 + (N-1) \times 3 + 10 \times 2 + 11 \times 2 + 12 \times 2$$

$$H = 0 \times 8 + (N-1) \times 3 + 10 \times 2 + 11 \times 2 + 12 \times 2$$

$$I = 0 \times 8 + (N-1) \times 3 + 10 \times 2 + 11 \times 2 + 12 \times 2$$

$$J = 0 \times 8 + (N-1) \times 3 + 10 \times 2 + 11 \times 2 + 12 \times 2$$

$$K = 0 \times 8 + (N-1) \times 3 + 10 \times 2 + 11 \times 2 + 12 \times 2$$

$$L = 0 \times 8 + (N-1) \times 3 + 10 \times 2 + 11 \times 2 + 12 \times 2$$

$$M = 0 \times 8 + (N-1) \times 3 + 10 \times 2 + 11 \times 2 + 12 \times 2$$

$$N = 0 \times 8 + (N-1) \times 3 + 10 \times 2 + 11 \times 2 + 12 \times 2$$

$$O = 0 \times 8 + (N-1) \times 3 + 10 \times 2 + 11 \times 2 + 12 \times 2$$

$$P = 0 \times 8 + (N-1) \times 3 + 10 \times 2 + 11 \times 2 + 12 \times 2$$

$$Q = 0 \times 8 + (N-1) \times 3 + 10 \times 2 + 11 \times 2 + 12 \times 2$$